



TOWN HALL MEETING

October 27, 2005

Bo Bodvarsson, Director
Earth Sciences Division
Lawrence Berkeley National Laboratory



“We must continually strive for improvement in all aspects of our work from EH&S to scientific excellence”

AGENDA

■ Division Update

Bo Bodvarsson

- EH&S
- Time Reporting
- LDRD Awards
- New Projects/Initiatives
- ESD/Directorate Off-Site Retreats

■ Scientific Talks

- Geophysical Methods for Monitoring Geologic CO₂ Sequestration

Erika Gasperikova

■ General Discussion

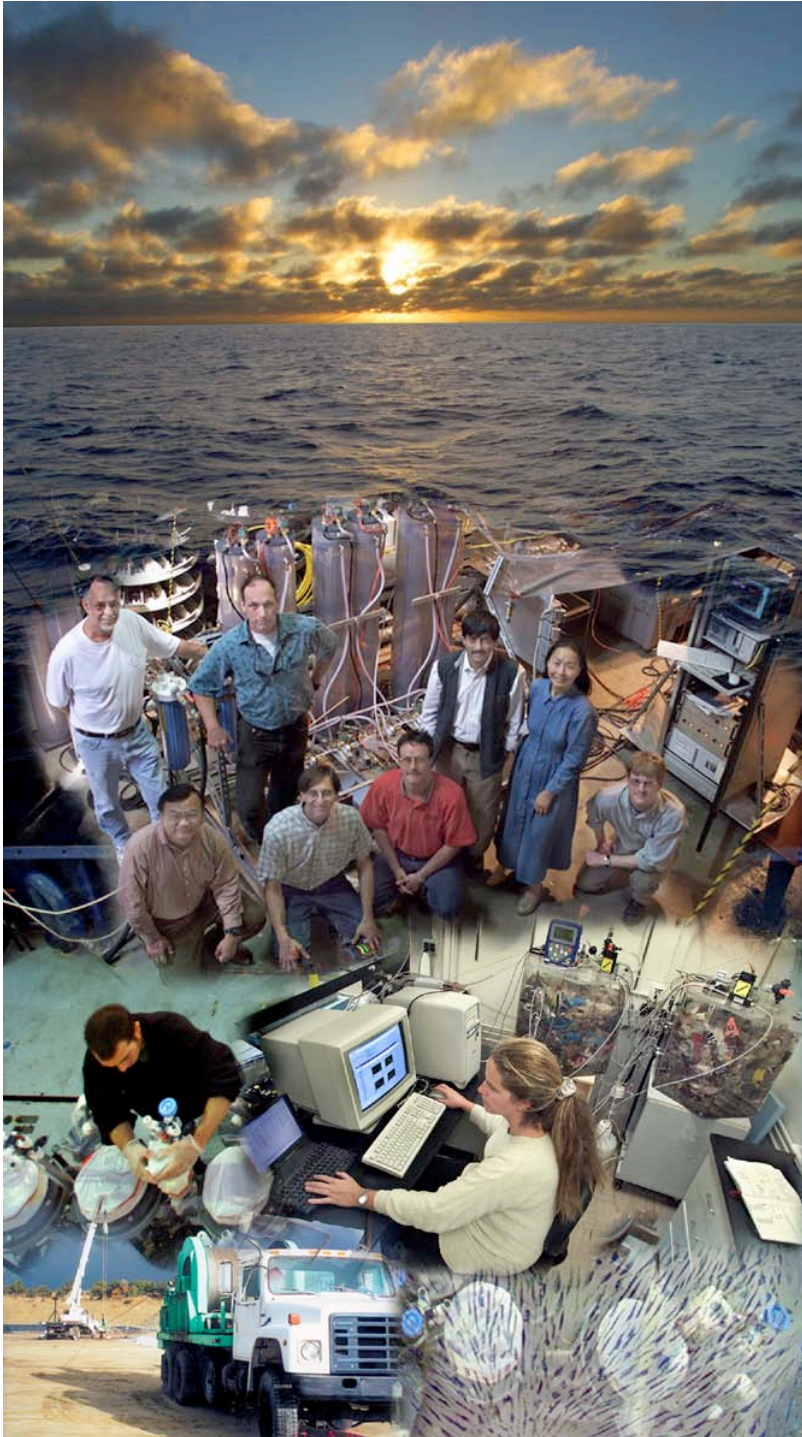
All



OUTLINE

- EH&S
- Our Organization
- The Way We Do Business
- Communication & Professional Development
- Our People
- Discussion





EH&S

ESD Town Hall Meeting
October 27, 2005



ES&H Update

- **Integrated Functional Appraisal (IFA) of ESD by EH&S subject matter experts in May-June 2005**
 - 12 ESD Labs, 20 offices inspected by 11 EH&S Subject Matter Experts
 - 84 Findings - low risk, but they represent “non-compliances”
 - Seismic, electrical, ergo, housekeeping
 - Many findings are repeated occurrences - Why?
- **Our response to IFA: Proactive ES&H means that each individual must take responsibility! Don't wait for the inspection!**
 - Know the “top ten” inspection items, regularly check your workspace and follow-up with necessary corrections
 - Look for the upcoming checklist to be included in the lab primers and at-a-glance 1-pager
 - Labspace - LLPIs should check their space on a weekly basis



Proactive ES&H for ESD

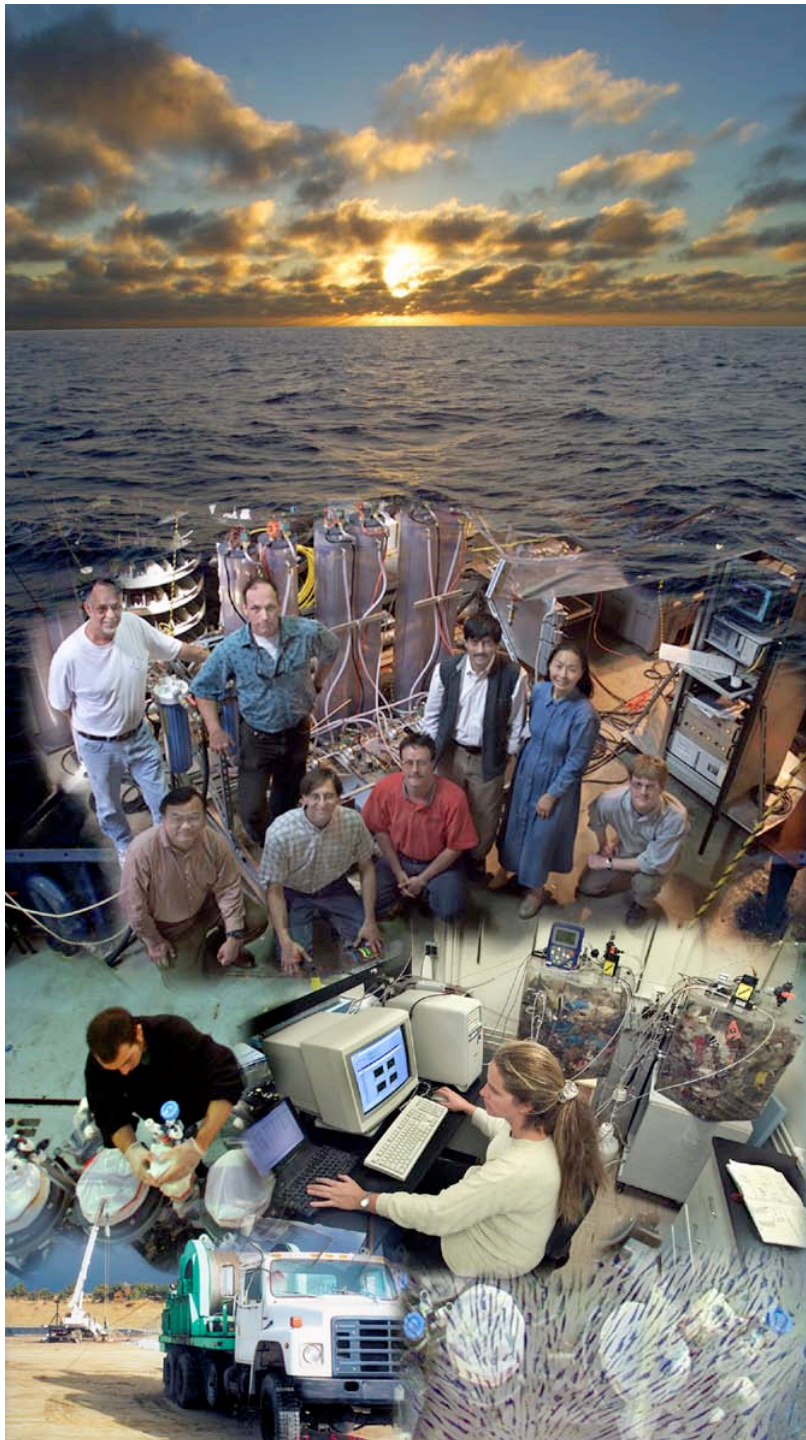
- **We need to reinvigorate ESD's attention to ergonomics-**
 - ESD's accident/first aid record - PY05 8 accidents, including 3 ergo - two of those involved students
 - “Ergo focused” assessment in progress
- All employees should be proactive about ergonomics - Don't wait for someone to tell you!
 - Get an ergo evaluation
(<https://isswprod.lbl.gov/Ergo/Login.asp>)
 - When you begin work in ESD, when you use a new work station
 - For any repetitive task, not just at computer workstations (lifting, pipetting, standing for prolonged periods, other seated work)
 - At the FIRST SIGN OF DISCOMFORT
 - You should also go to medical to address this before it becomes an injury that requires physical therapy
 - Address/implement the recommendations



Proactive ES&H for ESD (cont.)

- Costs of ergo recommendations?
 - No cost - education (posture, leg-room, adjusting existing furniture)
 - Low cost accessories - wrist rests, adjustable/alternative keyboards and mice, etc.
 - Higher-cost furniture like a chair - BUT compare \$600 for a chair - cost of a day's work - with \$30,000 typical physical therapy case
- Look for upcoming ergo guidance for labs





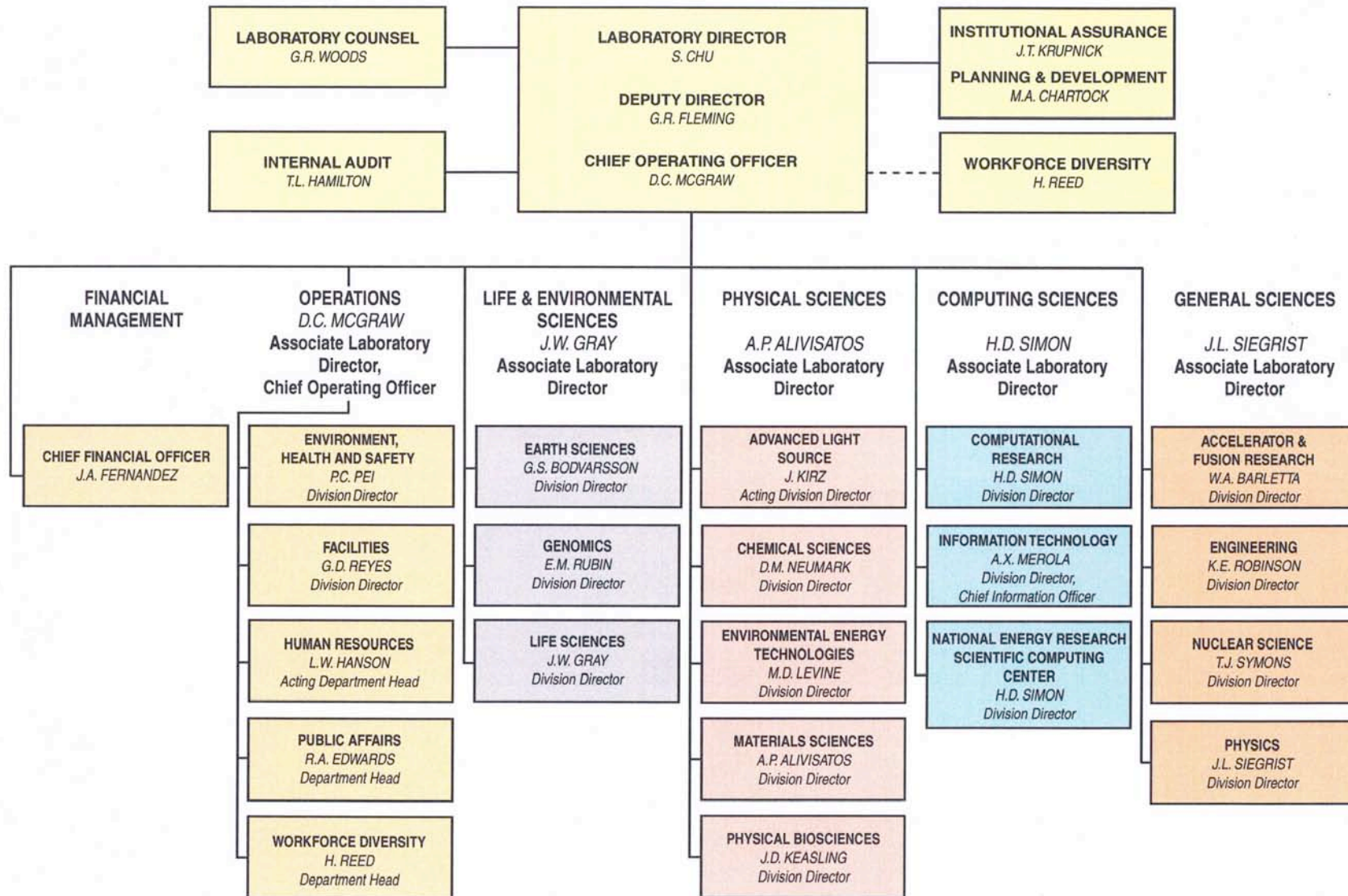
OUR ORGANIZATION

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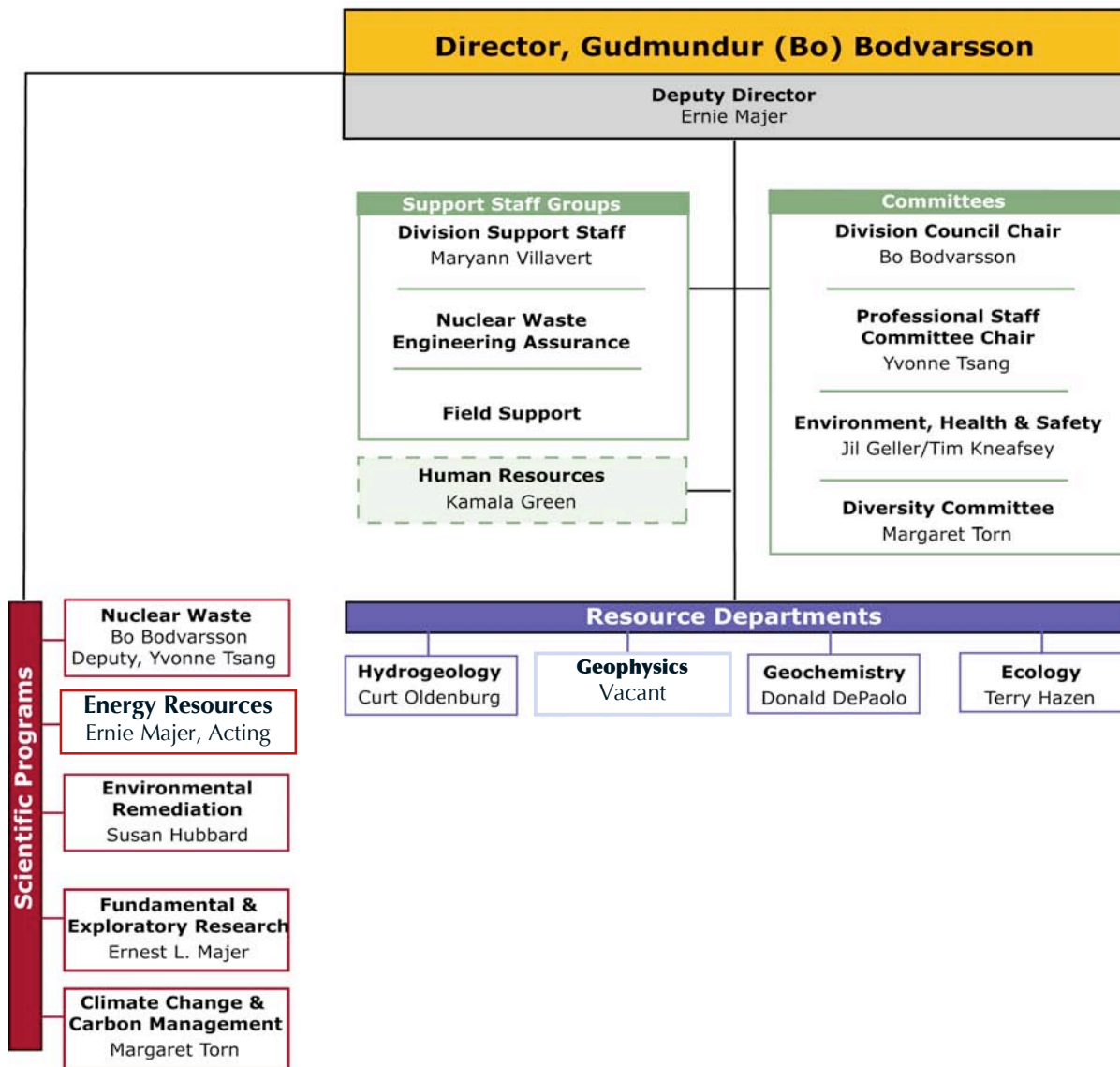
LAB ORGANIZATION

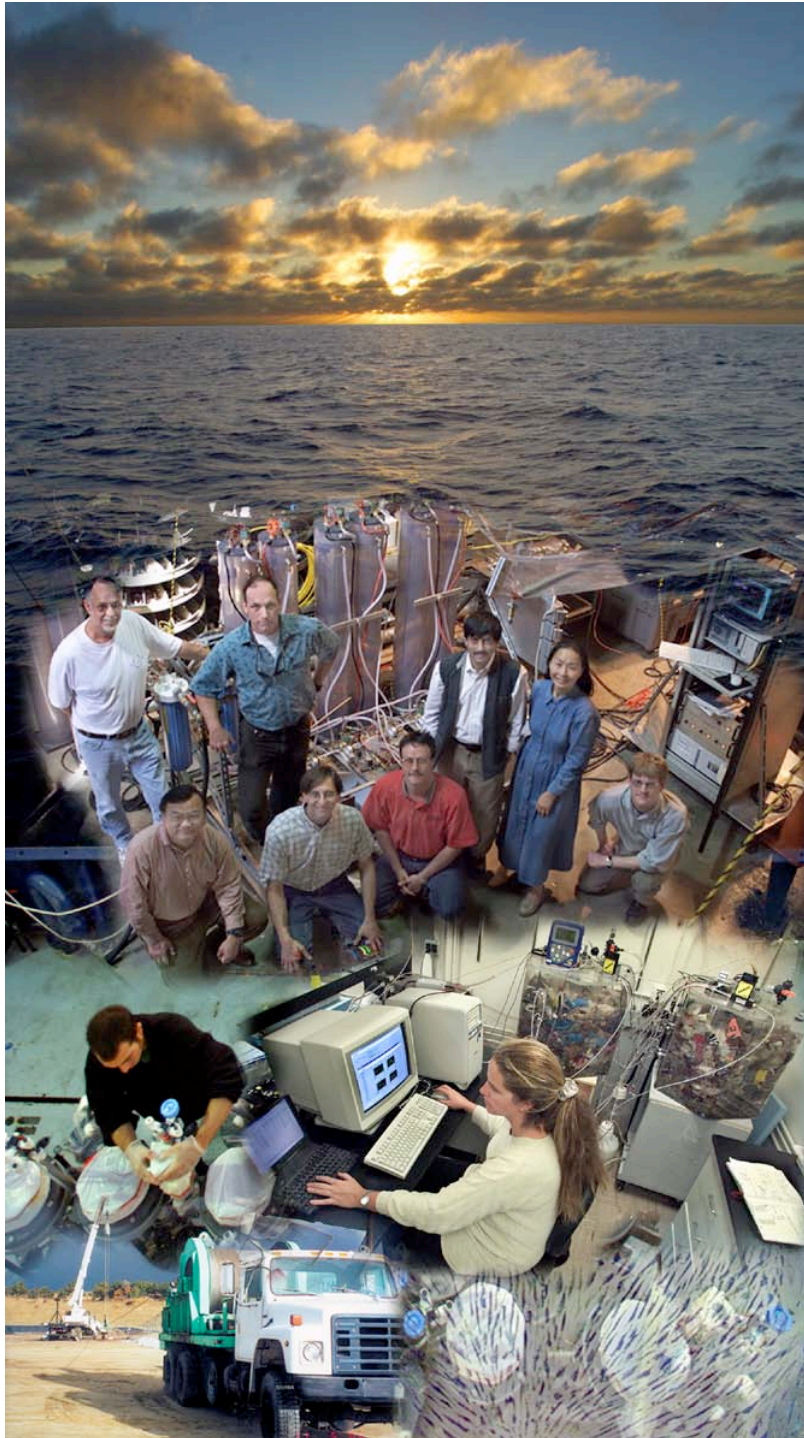
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ESD ORGANIZATION

Earth Sciences Division





THE WAY WE DO BUSINESS

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Newly Funded DOE Projects for FY06

Amounts shown per year/over 3 years

- Andersen, Dynamic Spatial Organization of Multi-Protein Complexes Controlling Microbial Polar Organization (\$166K, joint with LS)
- Hazen, High Throughput Identification and Structural Characterization of Multi-Protein Complexes During Stress Response in *Desulfovibrio Vulgaris* (\$500-\$872K, joint with LS and PBD)
- Moridis, Numerical and Laboratory Studies on the Geomechanical Performance of Hydrate-Bearing Sediments in Offshore Environments (\$95K)
- Benson, Scientific Assessment of Storage of Carbon Dioxide in Geological Formations (\$100K)
- Gilbert, Nanoparticle Aggregation in Natural Aqueous Systems: Aggregate Structure and Consequences for Geochemical Kinetics (\$200K)



Newly Funded WFO Projects for FY06

■ SPAA Issued (“Money in the bank”)

Sponsor Name	PI Name	Title	Amount	Duration
DOE NEVADA	P. WITHERSPOON	GEOLOGICAL CHALLENGES IN RADIOACTIVE WASTE ISOLATION	200,000	16 mos.
DOC-NAT'L OCEANIC & ATMOSPHERIC	J. BISHOP	EXPLORATION, ASSESSMENT, AND UNDERSTANDING	125,000	10 mos.
LAWRENCE LIVERMORE NAT'L LAB	M. TORN	SEQUENCE	9,293	3 mos.
U.S. DEPARTMENT OF THE INTERIOR	N. QUINN	INTEGRATION OF STATE-OF-THE-ART GEOPHYSICAL	69,793	12 mos.
OAK RIDGE NAT'L LAB	C. STEEFEL	MODELS TO PREDICT THE LONG-TERM DURABILITY	35,000	7 mos.
GEOMATRIX CONSULTANTS, INC.	S. HUBBARD	DEVELOPMENT OF A HYDROIMAGE	55,032	12 mos.
CONOCO, INC.	G. NEWMAN	INVESTIGATION AND DEVELOPMENT OF 3-D ELECTROMAGNETIC	30,293	12 mos.
SHELL INTERNATIONAL LTD.	G. MORIDIS	LBNL ACTIVITIES IN SUPPORT OF THE SHELL PROJECT	64,944	5 mos.
LAWRENCE LIVERMORE NAT'L LAB	E. MAJER	SEISMIC ATTENUATION TOMOGRAPHY AT U16	225,000	12 mos.
BP AMOCO CORPORATION	G. HOVERSTEN	MODELING THE RESOLUTION OF INEXPENSIVE, NOVEL NON-SEISMIC	90,000	18 mos.
BATTELLE PACIFIC NW LABS	B. FREIFELD	IN SITU INCUBATOR DETAILED DESIGN	20,000	6 mos.
SCHLUMBERGER TECHNOLOGY	G. HOVERSTEN	MARINE ELECTROMAGNETIC MODELING COURSE	261,768	12 mos.
U.S. DEPARTMENT OF THE INTERIOR	N. QUINN	RECONNAISSANCE	121,404	12 mos.
GEOMATRIX CONSULTANTS, INC.	S. HUBBARD	REVIEW OF HANFORD SUBSURFACE GEOPHYSICAL APPLICATIONS	15,828	4 mos.
CALIFORNIA STATE ENERGY COMM	M. KENNEDY	DEVELOPMENT OF FLUID INJECTION STRATEGIES FOR OPTIMIZING	998,606	36 mos.
NAVAL AIR WARFARE CTR/CHINA LK	G. NEWMAN	HIGH RESOLUTION 3-D MAGNETOTELLURIC	120,000	12 mos.
ARGONNE NATIONAL LAB	J. APPS	TECHNICAL REVIEW OF TEST FACILITIES	37,500	2 mos.
INSTITUTO DE INVESTIGACIONES	K. PRUESS	CHEMISTRY OF WATER FLOODING FOR ENHANCED OIL RECOVERY	44,064	6 mos.
DOE NEVADA	B. BODVARSSON	IAEA - INTERREGIONAL TRAINING ON METHODOLOGIES FOR GEOLOGICAL DISPOSAL	87,000	12 mos.



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FY06 LDRD Awards

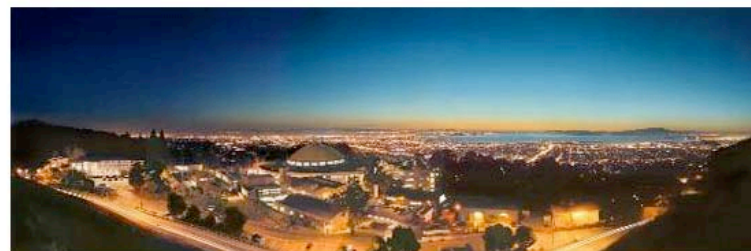
- Total ESD award for FY06 is \$1675K. An increase of \$515K from last year
- Many high quality proposals were submitted and competition was high. The review and award process was very difficult due to the high caliber of proposals received
- Congratulations to the following awardees:

- **Andersen**
“Microarray Technology for Fungal Identification”
\$60K/New
- **Benson**
“Scientific Basis for Advance Geologic Storage”
\$175K/Continuation
- **Bishop, Luke**
“Autonomous Sensors for Ocean Dissolved Organic Matter”
\$250K/Continuation
- **Coates, Hazen, Arkin, Hugenholtz, Keasling Andersen, Ryan**
“An Investigation of the Microbial Processes Involved in Electron Transfer”
\$350K/New
- **DePaolo, Lu, Tomutsa, Christensen, Cliff, VanCurren**
“Micro-Characterization and Chemical Micro-Dynamics”
\$100K/Continuation



LDRD Program

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- **Gilbert**
“Behavior and Impact of Nanoparticles”
\$150K/Continuation
- **Holman, Hu, Borglin**
“Compositional and Functional Analysis”
\$120K/New
- **Miller, Dale, Quinn**
“The California Water and Energy System”
\$90K/Continuation
- **Moridis**
“Interrelation of Global Warming and Hydrate”
\$100K/New
- **Nakagawa**
“A New Technology for Permeability”
\$80K/New
- **Oldenburg, Riley, Miller, Steefel**
“Coupled Modeling of Hydrology”
\$100K/New
- **Steefel, Christian, Zachara**
“Biogeochemical Reaction Rates and Pathways”
\$100K/New

Proposals in Progress

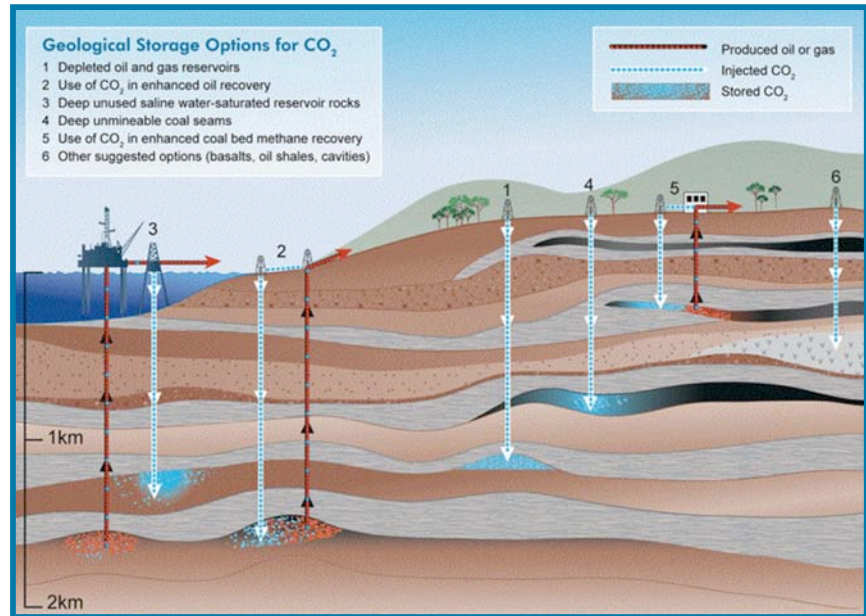
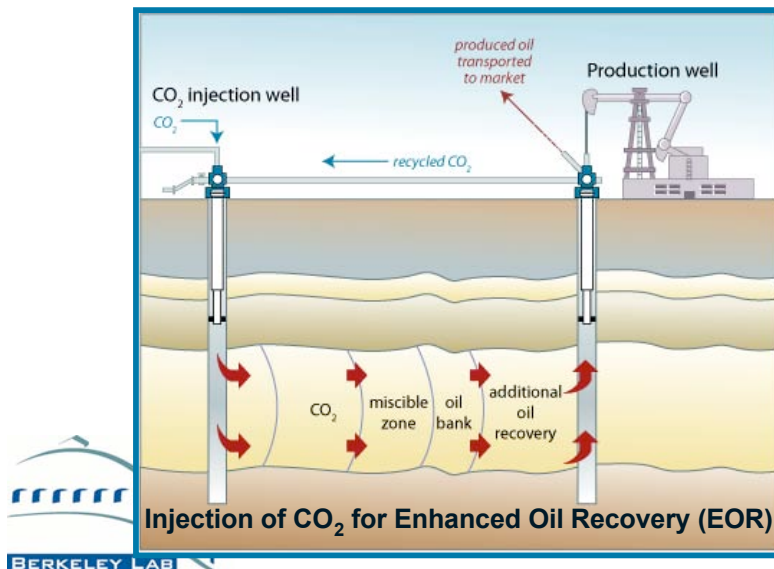
- **EMSP proposal update-this is what we know**
 - 5 out of 7 proposals from ESD are still in the running
 - 70% of the total proposals submitted to EMSP were declined
- **ACRONYMS**
 - FWP = Field Work Package
 - WFO = Work For Others
 - SPAA = Sponsored Project Award Authorization



New Initiative — CO₂ Proposal

■ Major Areas of Resources

- Enhanced CO₂ Storage
- Capture
- Alternative Fossil Fuel Futures
- Terrestrial Sequestration and Biomass Use with CO₂ Storage

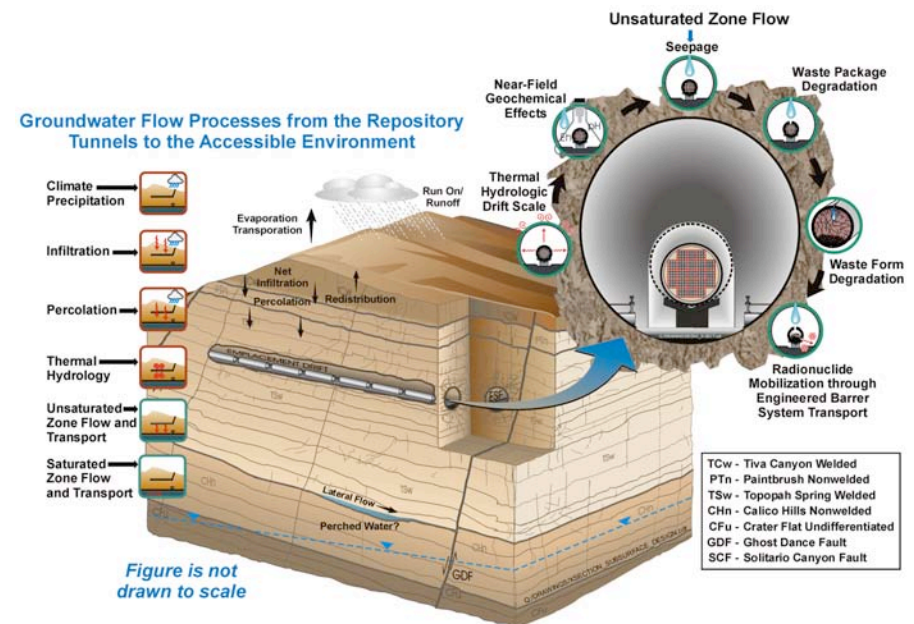


Options for Storing CO₂ in Deep Underground Formations



Yucca Mountain News (Golan's effects)

- Multi-purpose canister is back
- Lead laboratory will be selected (Sandia?)
- License application by the end of FY06
- USGS to verify all their scientific work; infiltration redone
- Perhaps new TSPA
- Bechtel/SAIC out?
- University committee to look at LSN, LA, Infiltration



So you have the funding, now what?

- **Contact Grace (DOE projects) or Bridget (Work For Others projects) to finalize open status of Project IDs**
- **Monthly Project Account Reports show costs and funds remaining**

Funds carriedover from FY04	Actual Funds Received (inc carryover)	Actual FY05 funding recd per B&R status	Est FY05 Funding	Total Funding	YTD Actual Costs Spent	Liens (Adj)	Funds remaining (not incl liens)	% Spent + liens + OH vs Actual Funds Recd	Apr	PAM	Expiration	SPONSOR/B&R
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- **PI responsibilities:**

- Track spending costs for accuracy and appropriateness
- Know who is spending your project and for what
- Only spend what you have “in the bank”
- Never overspend your Project
- Plan by developing proposals and budgets ahead of time
- Let Division Management (Bo) know of funding difficulties ahead of time, 3 months prior to funding shortage



Issues & Upcoming Audits



- **On-going Internal Audits resulted in major findings**
 - 2/3^{rds} of time reported effort (Lab's largest costs/expenses) was never approved by the supervisor
 - Contributing factors included: Paper time sheets that were never returned
 - Employees did not enter time in a timely manner
- **The Inspector General (IG) is expected to formally announce an IG audit to be conducted at LBNL.**
 - IG audits already conducted at Pacific Northwest National Laboratory resulted with serious findings and consequences



Time reporting changes



- **All employees are expected to report their time on-line in a timely manner using LETSLite (<https://lets.lbl.gov>), login with email and password)**
 - This can be done off-site
- **If you do not self-input your time, or your time is changed by someone other than you, or you do not approve on-line, you are expected to sign a hardcopy document that is emailed directly to you**
 - It is imperative that you RETURN this document to Valarie Espinoza-Ross, ESD's timekeeper. Via her mailbox in 90 or 70A, or via mailstop 70A3317
 - This is a document that is subject to future auditing
- **All time reporting documentation, including labor adjustments and communication between you, your supervisor, the time keeper, and the budget analysts is also subject to audits**

Employee

- Enter time worked using the appropriate project ID for the current reporting period.
- Charge vacation, sick or other leave appropriately.
- Once you have inputted your time, review and "release" your time.
(This constitutes your legal signature)
- Please note that releasing your time in a timely fashion allows your approver (supervisor of record) sufficient time to review and approve it before the SWEEP.

TIP

- If you are unable to enter your time due to an inability to access a computer, contact Valarie Espinoza-Ross, ESD's timekeeper, x5234 to assist you.
- Monthly: Not entering your time will require the equivalent of 3 peoples' efforts to correct. You will not be able to accrue sick or vacation time.
- Weekly: If you miss entering in your time, you risk the chance of not receiving your

Approver

- As an approver you will be able to:
 - Approve current time for your employees
 - Modify or add current time for your employees
 - Approve late and corrected time for your employees
- **Review** your employee's time and ensure that the correct ID is charged accordingly.
- **Ensure** that the project charged has funding and that your employee has coverage for the entire year.
- **Approve** time for each employee before the SWEEP.

TIP

- It is important that you approve your employee's time electronically. If not, after the close of the reporting period LETS generates a paper report that requires your signature. You must sign and return this form to Valarie Espinoza-Ross. This is a legal document.



Time Reporting: What can you do?

■ Employees

- Charge your effort appropriately (also report sick, vacation, or other leave)
 - In the event that exempt employees work more than the normal number of hours or days, they are to distribute their effort proportionally to each project they worked on, based on the total time worked. (RPM, Section 3.02 (D))
- Avoid errors by double checking your Project number/title before “releasing” the time card
 - Common errors are transposition of numbers, not entering 6 digits, including the “-”
- Inform your time card approver that you have entered your time
- Allow your supervisor enough time to review your time card

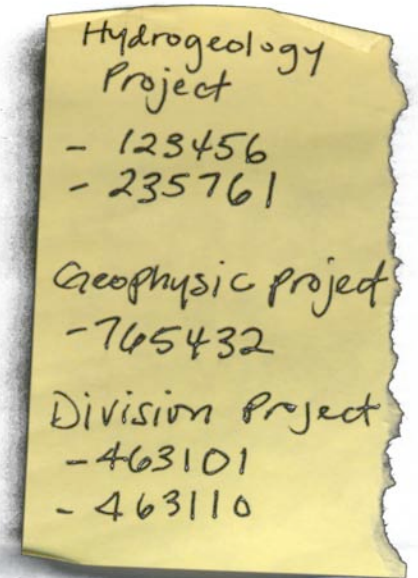
■ Approvers

- Review the time entered to ensure
 - The correct Project is being charged (if the project ID is red, call Peter Lau or Grace Miller to confirm the correct number)
 - There are enough funds within the project
- Approve the time card prior to 12 pm (noon) SWEEP DAYS



Quick Tip on Using LETSLite

- You could never remember your project IDs so you wrote them on a piece of paper and kept them in a wallet
- But you've lost that piece of paper... Now what?
 - Retrace your month (or your week) and try to re-list all the project IDs on a new piece of paper...
 - Call up Grace, Peter, Bridget, Maryann, Valarie...
 - Retrace your steps to where you last saw that piece of paper...
 - Look in the laundry lint filter...
- Here is a tip on using LETSLite's "Maintain Favorites" tab



LETSLite Tip: Maintain Favorites Tab

LETSLite - Berkeley Lab Employee Time Reporting System - Mozilla

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop Search Print

Home Bookmarks mozilla.org ESD Travel

LETSLite

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY [Help](#) [Contact Us](#) [Sign Off](#)

Welcome Maryann Villavert Roles: Employee

Enter Time **Employee Information** **View Time History** **Maintain Favorites**

Time Entry

Villavert, Maryann 774803 Your Percent Time: 100% Your Approver: [Bodvarsson, Gudmundur S](#) Your TimeKeeper: E

Time for Period ending 11/30/2005

Work Days in November: 22.00 / Time not Released

Earnings Type	Shift	Project ID	November	Days
R-Regular time	1	<input type="text"/>	<input type="text"/>	<input type="text"/>
				<input type="button" value="Add"/>

Earnings Type	Shift	Project ID	November	Days
Holiday	1	356011 Holiday	24	1.00
Holiday	1	356011 Holiday	25	1.00

Click on
"Maintain Favorites"
Tab



LETSLite Tip: Maintain Favorites Tab

LETSLite - Berkeley Lab Employee Time Reporting System - Mozilla

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LETSLite
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Help Contact Us Sign Off

Welcome Maryann Villavert Roles: Employee

Enter Time Employee Information View Time History Maintain Favorites

Maintain Project Favorites

Add to your Project Favorites

Add

1. Type in your 6-digit Project ID

2. Click to Add

Project ID

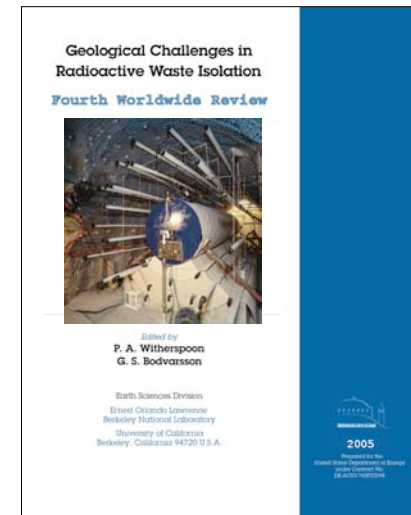
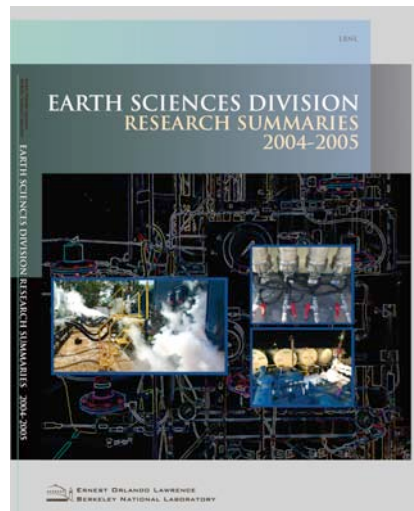
123456 – Project One	Delete
789012 – Project Two	Delete
345678 – Project Three	Delete

Your “favorite” Project IDs will populate here. This is an information only list.



ESD Publications in Progress

- OSTI Annual Report
- ESD Research Review Summaries 2004 - 2005
- Fourth Worldwide Review



Property Update

- **A 5 year inventory plan is in place which consists of the following:**
 - 1st year – statistical sampling
 - 2nd year – wall to wall inventory (100% of all assets)
 - 3rd, 4th and 5th year statistical samplings
 - All inventories will begin in January
- **The FY06 inventory will be primarily based on a Statistical Sample and will be initiated on January 2, 2006**
- **The 4 areas to be inventoried are:**
Controlled, Sensitive, Home, and High Value assets with an acquisition of > \$500,000
- **Due to the upcoming Sampling, if custodian and/or location changes need to be done, they must be emailed to Marie Butson by 11/11/05. AMS will close and data information will be locked on 11/18/05 until Stat Sampling is completed**
- **PLEASE CHECK YOUR PROPERTY REPORTS and ensure that property under your name can be properly accounted for and easily located!!!**



Foreign Travel Criteria

- **Fly America Act** – requires that U.S. carriers must be used for travel that is to be reimbursed from federal grants and contracts
- **YM and OSTI Foreign Travel** – Travel will not be approved if the request includes personal days
- Please remember to electronically send the Post DOE Trip Report to Marie Butson once travel is completed for all foreign travel, except for travel on gift accounts
- All foreign travel must be signed off by, traveler, program lead, and division director for approval
- **Point Criteria Justifications** – 9 Point Criteria must be filled out when going on foreign travel using Radioactive Waste funding. 5 Point Criteria must be used when going on foreign travel using Fossil Energy funding. 10 Point Criteria – Environmental Management funds



Technical Review of Proposals

- Two technical reviews are required for all proposals (WFOs, FWPs, and competitive calls)
- The role of a proposal reviewer is to do the following:
 - Identify if the proposal is technically sound and of the highest quality
 - Ensure the work is appropriate for ESD and budget and effort are reasonable
 - Proposal does not duplicate existing work
 - Determine if other collaborators need to be included



TOUGH Family of Codes

- TOUGH2V2.0 & TOUGHREACT listed as the top two most frequently requested software by the Energy Science and Technology Software Center (ESTSC). ITOUGH2(PC) & TMVOCV1.0 are ranked 7th & 8th
- The ESTSC is DOE's centralized software management facility operated by the Office of Scientific and Technical Information (OSTI)
- Special acknowledgement to the code developers:

- Karsten Pruess

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-
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Home Search Software List Form 241.4 What's New Most Requested Ordering Information Software Availability FAQ Technical Support		
Most Frequently Requested Software DOE Sponsored Scientific and Technical Software Most Frequently Requested (Within One Year):		
Acronym	ESTSC Package ID	Package Name
TOUGH2V2.0	000219MLTPL05	Unsaturated Groundwater and Heat Transport Model
TOUGHREACT	000219MLTPL07	Simulation Program for Non-isothermal Multiphase Reactive Geochemical Transport
KIVA3VREL2	000154MLTPL02	A Block-Structured KIVA Program for Engines with Vertical or Canted Valves
DYNA3D2000*	000138MLTPL01	Explicit 3-D Hydrodynamic FEM Program
DOE2.1E-121	000158IBMPC04	Building Energy Consumption Analysis
ITOUGH2(PC)	000219MLTPL03	Inverse Modeling for TOUGH2 Family of Multiphase Flow Simulators
TMVOCV1.0	000219MLTPL06	Unsaturated Groundwater and Heat Transport Model.
CFDLlib05	000663SUN0002	Computational Fluid Dynamics Library
CFDLlib03.1	000663SUN0001	Computational Fluid Dynamics Library
NIKE3D96*	000139MLTPL00	Static & Dynamic Response of 3D Solids
Comments/Questions Website Policies and Important Links OSTI		



ESD Off-Site Retreat

- **Held on August 28-29, 2005 in Bodega Bay. Attended by Division Council and Senior Staff Scientists**
- **Key objectives: Developing strategic goals and planning for our future**
- **Action Items for the Division:**
 - Identify strategic hires in critical mass areas
 - Strategic promotions within the Division
 - Department Head for Geophysics
 - More joint appointments with UCB
 - Upgrade/Purchase new equipment to support geochemical analysis.



Director's Off-Site Retreat

- **Director's Off-Site Retreat**
scheduled for November 1–3, 2005
- **Retreat Goals:**
“To socialize and create clarity and agreement to the mission for the future of the Berkeley Lab and identify and prioritize specific strategies and initiatives Berkeley Lab will pursue in support of the mission”
- **Retreat Objective:**
“To develop a practical plan to implement a new organizational structure at Berkeley Lab which encourages and enables cross-functional collaboration in the conduct of value added research together, in order to: maximize the use of their talents; promote practical collaborations; and, provide financial benefits to individual scientists, programs and to Berkeley Lab”



- **SECUREEarth Workshop held September 12-13, 2005 in Golden, CO**
- **Attended by ~80 scientists from National Laboratories, Universities, and Industry**
- **Breakout Groups/Group Leaders – Day 1:**

Breakout Groups/Group Leaders

CO₂ STORAGE

SALLY BENSON
 LAWRENCE BERKELEY NATIONAL LABORATORY

ENERGY

PHIL BORDING
 MEMORIAL UNIVERSITY OF NEWFOUNDLAND

ENVIRONMENTAL

TULLIS ONSTOTT
 PRINCETON UNIVERSITY

NUCLEAR WASTE

MARK PETERS
 ARGONNE NATIONAL LABORATORY

GEO THERMAL

SABODH GARG
 SAIC

GROUNDWATER

BRUCE ROBINSON
 LOS ALAMOS NATIONAL LABORATORY

DUSEL

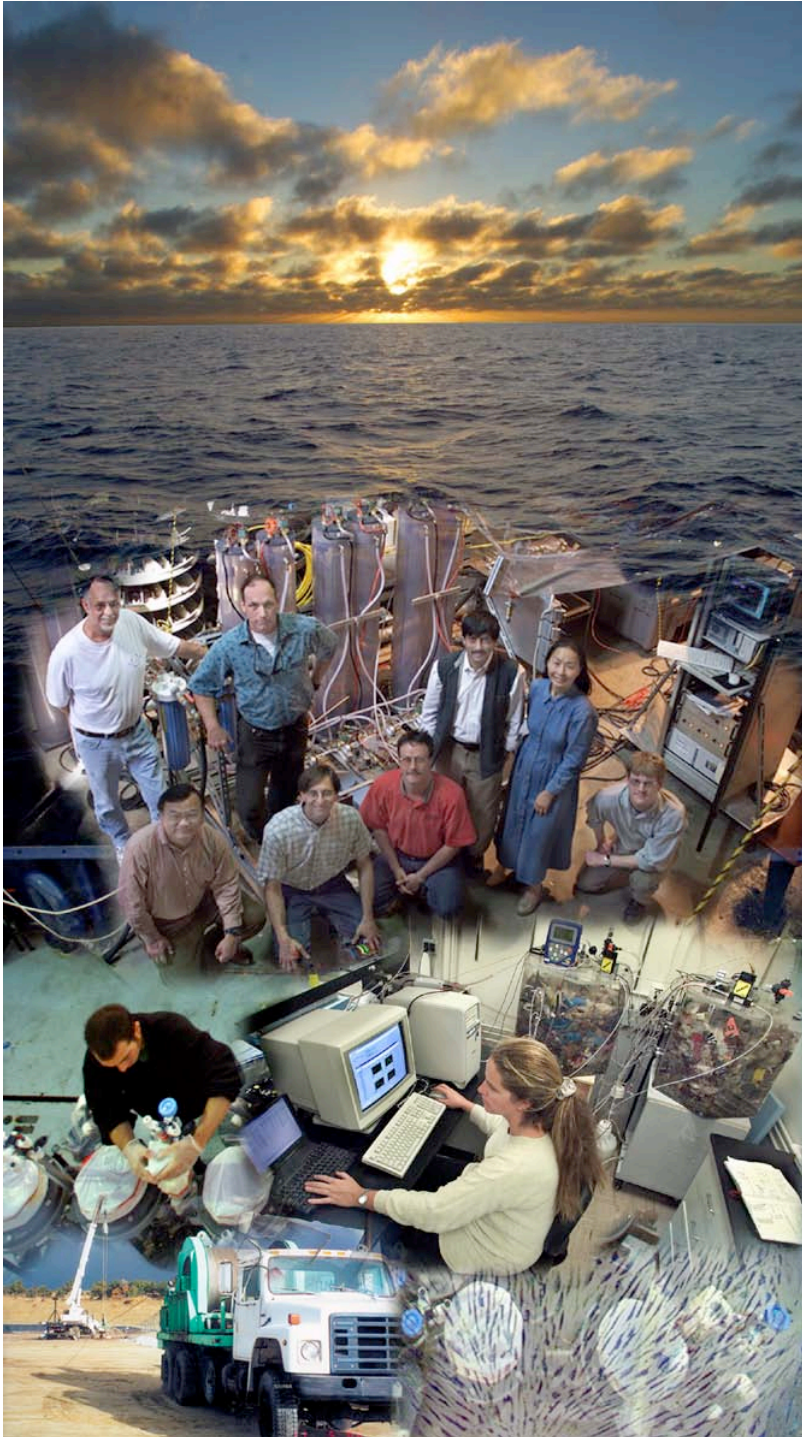
JOE WANG/CHARLES FAIRHURST
 LAWRENCE BERKELEY NATIONAL LABORATORY
 UNIVERSITY OF MICHIGAN



Revised Groups – Day 2:

- Flow Delineation
- Fracture & Faults
- Infrastructure & Faults
- New Orleans
- Microbes
- Sensors
- Modeling
- Flow Manipulation
- DUSEL





COMMUNICATION AND PROFESSIONAL DEVELOPMENT

ESD Town Hall Meeting
October 27, 2005



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Upcoming Development & Training Opportunities

■ Verbal Communication Course

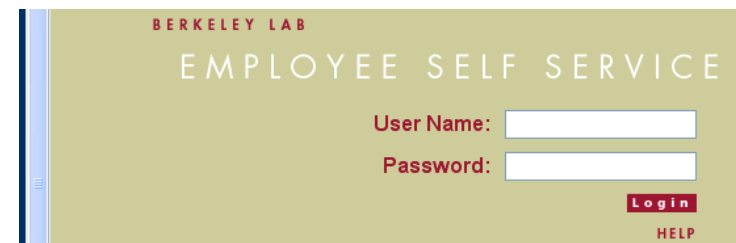
- In 2002, ESD-Nuclear Waste Program sponsored a verbal communication course with positive feedback and results
- In 2005-2006, ESD and other interested Divisions (EHS, Life Sciences) is planning to bring back this course

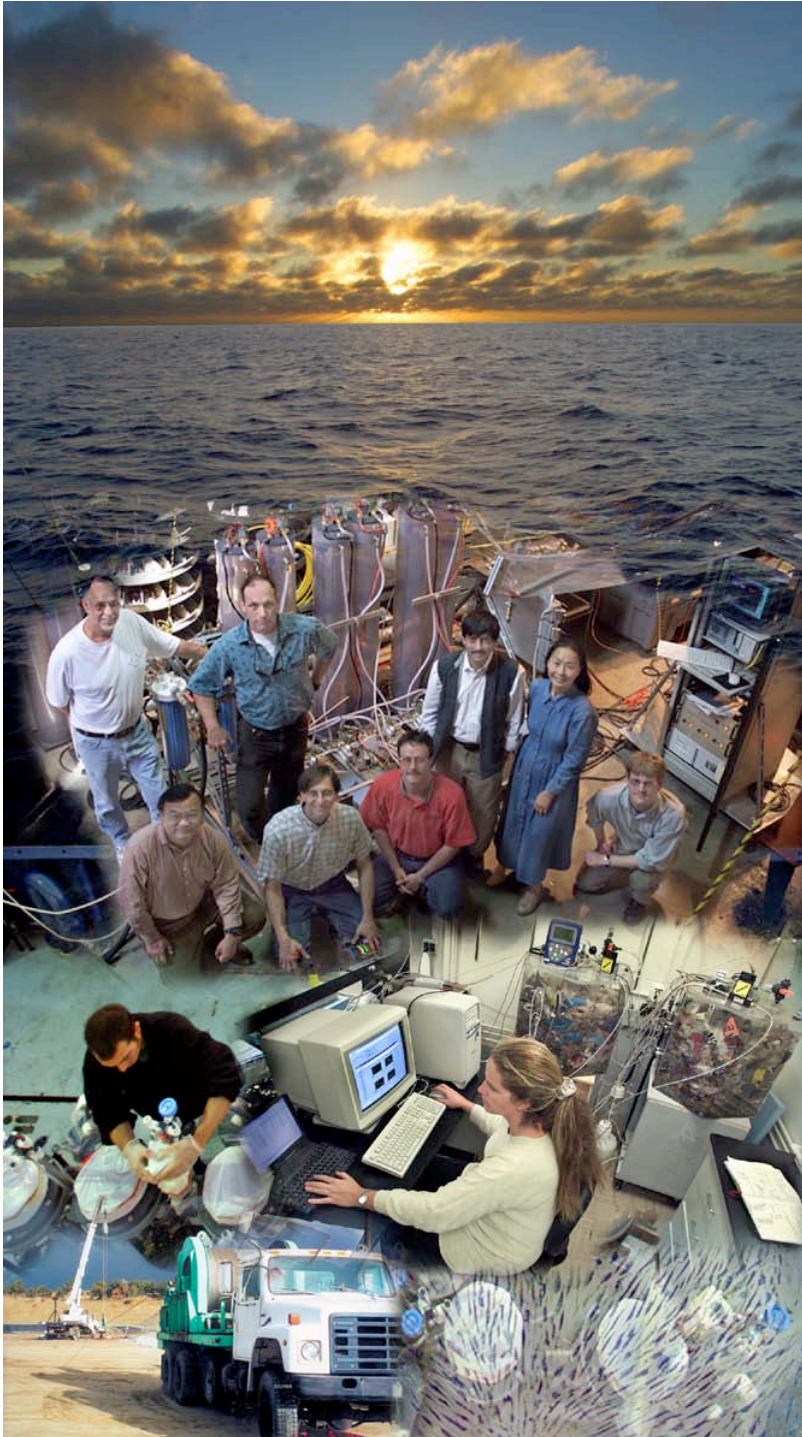
■ Berkeley Lab Institute

- New program to provide on-site services in core areas for all employees
 - Leadership & Management, Technology Transfer, Human Resources, Administrative Professionals, Communication and more

■ Current LBNL Training Available

- Go to Employee Self-Service (https://hris.lbl.gov/self_service/login/) and login to find out training on:
 - Computer applications, EHS, Financial systems, Travel-GELCO





OUR PEOPLE

ESD Town Hall Meeting
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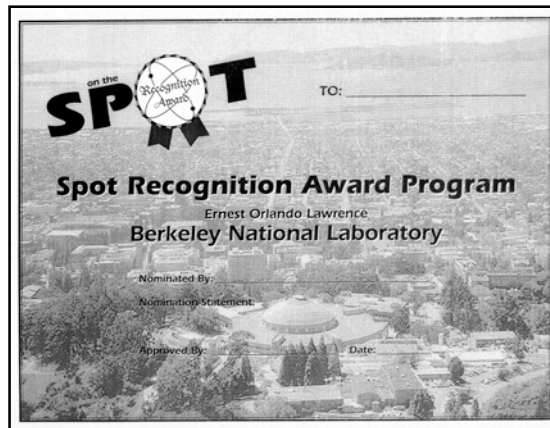


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Our People: Achievements & Events

■ Spot Awards:

Maria Atkinson
Marie Butson



■ Chin-Fu Tsang Retirement



■ ESD Picnic:



■ Holiday Party 2005

The Ecology Department is heading this years holiday event. Please stay tuned for more details to come.

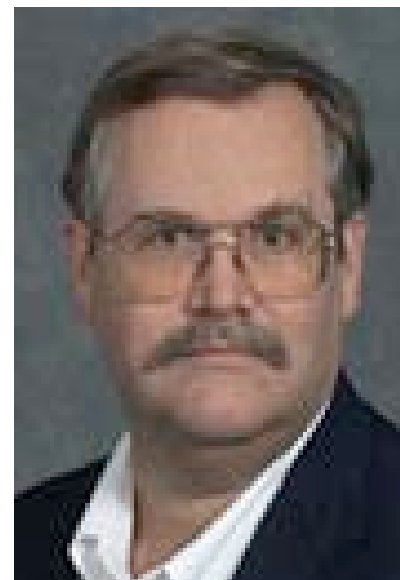


ESD Town Hall Meeting
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BER/DOE Fellowship Competition

- **Berkeley Lab's Terry Hazen won the "Distinguished Scientist Fellowship" award from the Office of Biological and Environmental Remediation**
- **Terry won in the Environmental Remediation Sciences Division for his studies on the bioremediation of solvents and metals**
- **Terry will receive \$250,000 per year up to 5 years while employed at the lab**



Scientific Talks

Erika Gasperikova



**Geophysical Methods for Monitoring
Geologic CO₂ Sequestration**



**ESD Town Hall Meeting
October 27, 2005**



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October Treats

- Enjoy a piece of cake to celebrate October birthdays, Terry's award, and to have a Safe & Happy Halloween!!!

